REMARKS

This is in response to the Final Office Action mailed August 25, 2005.

Applicants respectfully request reconsideration and removal of the rejections in view of the amendments and the arguments made herein this response.

Claims 1-28 are pending and stand rejected.

Claims 1, 2, 4, 5, 7, 8, 16, 18, 24, 25, 26 and 28 have been amended.

Claims 6, 9-15, 19 and 23 have been cancelled, without prejudice.

Claims 5, 6, 12, 13, 22 and 23 stand rejected under 35 USC 112, first paragraph as failing to comply with the written description.

Applicants (hereinafter, applicant) respectfully disagree with, and explicitly traverse, the reason for rejecting the claims.

With regard to claim 6, 12, 13 and 23, applicant notes that these claims have been cancelled. Hence, the reason for the rejection of these claims is not longer relevant.

With regard to the term "data copying rate" in claims 5 and 22, which depend from independent claim 1 and 18, respectively, applicant submits that the subject matter claimed refers to a method of copying data from one storage device to a second storage device over a network in a data replication or mirror process. Data replication or mirroring is well known in the art to provide substantially real-time copying of data from one device to another device to allow the data on the two devices to be substantially synchronized. Attached hereto are two dictionary definitions of data mirroring obtained from the Internet web sites www.webopedia.com/term/d/data_mirroring.html and wwwliutilities.com/products/winbackup/bacupterms/datamirroring, which show the substantial real-time nature of data mirroring or replication.. These web sites were obtained using the well-known Internet search engine www.google.com using the search term "data mirroring."

As data mirroring is known in the art to be the "process of copying data from one location ...in real-time," (see definition at www.webopedia.com) a "data copying rate" is a factor that known to those practicing in the art. Such data copying rate would be known to be the rate at which received data is copied to the receiving unit.

Having shown that the term "data copying rate" would be known to those practicing in the art, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

Claims 1-16, 18-26 and 28 under 35 USC 103(a) for allegedly being unpatentable over Colby (U.S. Patent 6,449,647) in view Chiou (USP no. 6,792,507).

Applicant respectfully disagrees with, and explicitly traverses, the reason for rejecting the claims. However, in the interest of advancing the prosecution of this matter, the independent claims have been amended to more clearly recite that the requested bandwidth is dependent upon the amount of data to be transferred and a known time. Now new matter has bee added. Support for the amendment may be found at least on page 56, lines 5-11, which state "[r]effering to Figure 17, ... the initial bandwidth requirement is estimated base on the amount of data to be transferred or replicated if that is the case... The calculation is based on how much [sic] invalid tracks or Megabytes exist between the local and remote storage systems and the amount of time allocated for the replication process as follow: (Invalid Tracks * MB/Track)/Time permitted before a Session Timeout is called).

Colby discloses a content-aware flow switch that intercepts a client content request in a network and transparently directs the content request to a best-fit server. The best-fit server is chosen based on the type of content request, the degree of load on available servers, network congestion information and the proximity of the client to available servers. However, Colby fails to disclose or suggest the copying of data stored on a first data storage system to a second data storage system (which is explicitly stated in the instant Office Action) or for allocating bandwidth based on the amount of data and a known time as is recited in the claims. Colby is silent on these features claims.

Chiou teaches a method for including cache memory near the target device and another cache memory at the requesting host side so that the data traffic across the computer network is reduced. (see Abstract). Chiou further discloses that the cache includes frequently accessed data from a group of storage devices. However Chiou fails to teach or suggest allocating bandwidth based on the amount of data and a known time as is recited in the claims.

A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

In this case, Colby teaches a system that directs data to servers based on the content of the data. Chiou, teaches caching frequently stored data to reduce the needed access to the storage devices. Neither Colby nor Chiou teach or suggest a method of allocating bandwidth dependent upon the amount of data and a known time. Hence, the invention recited in independent claim 1 is not rendered obvious by the references cited as neither reference teaches or suggests each of the elements claimed.

Even if there were some motivation to combine the teachings of Colby and Chiou, which the applicant believes does not exist, the combined device does not render obvious the invention claimed, as the combination of Colby and Chiou fails to include all the elements claimed. More specifically, the combined device does not provide a method for allocating bandwidth dependent upon the amount of data to be transferred and a known time. Rather, the combined device is silent with regard to allocation of the bandwidth.

Having shown that there is no teaching or suggestion to combine the references cited or that even if the teachings were combined, the combined device would not include all the elements claimed, applicant submits that the reason for the rejections of claim 1 has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the remaining independent claims, theses claims recited subject matter similar to that recited in claim 1 and were rejected citing the same references used in rejecting claim 1. Thus, the remarks made in response to the rejection of claim 1 are applicable in response to the rejection of the remaining independent claims. For the amendments made to the claims and for the remarks made in response to the rejection of claim 1, which are reasserted, as if in full, in response to the rejection of the remaining independent claims, it is submitted that the reason for the rejection of these claims has been overcome and the rejection can no longer be sustained. It is respectfully requested that the rejection be withdrawn and the claims allowed.

With regard to the remaining dependent claims, these claims ultimately depend from the independent claims, which have been shown to be allowable over the cited references. Accordingly, the remaining claims are also allowable by virtue of their dependence from an allowable base claim.

Claims 17 and 27 stand rejected under 35 USC 103(a) for allegedly being unpatentable over Colby and Chiou in view of Lyon (USP no. 6,028,841).

The aforementioned remaining claims are each dependent from an independent claim discussed above. As shown above the independent claims are not rendered obvious in view of the teachings of Colby and Chiou and the additional reference cited fails to provide any teachings to correct the deficiencies in the combination of Colby and Chiou.

Accordingly, the aforementioned remaining claims are also allowable by virtue of their dependence from an allowable base claim.

In the event the Examiner deems personal contact desirable in the disposition of this matter, the Examiner is invited to call the undersigned attorney.

Please charge all fees occasioned by this submission to Deposit Account No. 05-0889.

Respectfully submitted,

Dated: 11/25/05

Carl A. Giordano, Esq. (Reg. No. 41,780)
Attorney for Applicants
EMC Corporation
Office of General Counsel
44 S. Broadway
White Plains, NY 10601
(914) 798 8505

Kindly direct all written communications to:

EMC Corporation
Office of General Counsel
176 South Street
Hopkinton, MA 01748
Telephone: (508) 293-6985
Facsimile: (508) 293-7189

data mirroring

Last modified: Monday, April 16, 2001

The act of copying data from one location to a storage device in real time. Because the data is copied in real time, the information stored from the original location is always an exact copy of the data from the production device. Data mirroring is useful in the speedy recovery of critical data after a disaster. Data mirroring can be implemented locally or offsite at a completely different location.

*For internet.com pages about **data mirroring CLICK HERE**. Also check out the following links!*

LINKS

= Great Page!

Create a Disaster Emergency Plan 1-2-3
You can take three steps now to make sure your data center's resources will continue to function during and after a major disaster.

In Search of Continuous NT Computing
Clustering isn't the only way to increase NT's availability .

Storage Disaster: Will You Recover?
In recovering from an IT disaster, timing is everything.

Related Categories

Data Storage

Network Management

Networks

Related Terms

CDN

clustering

data recovery

disk mirroring

failover

fault tolerance

magnetic drum

mirror site

network-attached storage

RAID

SAN

server mirroring

storage

WinBackup Terms Library

data mirroring - Term Description

What is: data mirroring

Description:
Data mirroring is the process of copying all data in real time to a second storage location and keeping them synchronized. By keeping two or more copies of the data, you can recover from disk failures or crashes quickly and reduce downtimes. Data mirroring is mostly used on servers.

Term Category: backup,storage
General Notes: N/A

Backup Files: Use WinBackup
Encrypt Files: Use WinBackup

Category: D

DAFS (Direct Access File System)	DAS (directly attached storage)	DAT (digital audio tape)
data backup	database	data cleansing
data compression	data compression	data integrity
data mining	data mirroring	data protection
data recovery	data synchronization	data transfer
data transfer rate	data vaulting	data warehouse
DAT tape (Digital Audio Tape)	DDP (disk-based data protection)	DDR (double data rate)